

This Listing of Claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A magnetic recording medium, comprising:

a substrate;

a seedlayer directly disposed on the substrate, wherein the seedlayer comprises a Cr-X containing material and a portion of the seedlayer is oxidized;

a non-oxidized Cr-containing first underlayer;

a second underlayer comprising an HCP alloy; and

a magnetic layer, in this order,

wherein a solid solubility of said X is at least 3 atomic percent in Cr, and said X is selected from the group consisting of aluminum, calcium, titanium, vanadium, manganese, iron, cobalt, nickel, zinc, or a mixture thereof, and further wherein grains of the seedlayer in the medium has a lower sigma/mean than that of an unoxidized seedlayer in a similar medium.

2. (Original) The magnetic recording medium of claim 1, further wherein a heat of oxide formation of said X is less than that of Cr and a lattice tuning capability of said X is at least 2% that of Cr.

3. (Canceled).

4. (Canceled).

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5. (Canceled).

6. (Previously Amended) The magnetic recording medium of claim 1, wherein the oxidized portion of the seedlayer contains from about 0.0001 atomic percent oxygen to about 20 atomic percent oxygen.

7. (Previously Amended) The magnetic recording medium of claim 1, wherein the oxidized portion of the seedlayer contains from about 0.01 atomic percent oxygen to about 0.9 atomic percent oxygen.

8. (Previously Amended) The magnetic recording medium of claim 1, wherein the seedlayer has a Cr-X (110) interplanar spacing that is substantially equivalent to a (0002) interplanar spacing of the HCP alloy in the second underlayer.

9. (Previously Amended) The magnetic recording medium of claim 1, wherein the second underlayer comprises a CoCr-containing material to form a first magnetic recording medium, the first magnetic recording medium exhibiting a stronger CoCr (11.0) peak by X-ray crystallography than that of a second magnetic recording medium that is similar to the first magnetic recording medium except that the seedlayer of the second magnetic recording medium contains substantially pure Cr.

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10. (Original) The magnetic recording medium of claim 9, wherein the seedlayer of the first magnetic recording medium comprises Cr-10W and the CoCr-containing underlayer comprises Co-37Cr.

11. (Currently Amended) A method of manufacturing a magnetic recording medium, comprising:

depositing a seedlayer comprising a Cr-X containing material directly on a substrate, wherein a portion of the seedlayer is oxidized;

depositing a non-oxidized Cr-containing first underlayer;

depositing a second underlayer comprising an HCP alloy; and

depositing a magnetic layer, in this order,

wherein a solid solubility of said X is at least 3 atomic percent in Cr, and said X is selected from the group consisting of aluminum, calcium, titanium, vanadium, manganese, iron, cobalt, nickel, zinc, or a mixture thereof, and further wherein grains of the seedlayer in the medium has a lower sigma/mean than that of an unoxidized seedlayer in a similar medium.

12. (Original) The method of manufacturing a magnetic recording medium of claim 11, further wherein a heat of oxide formation of said X is less than that of Cr and a lattice tuning capability of said X is at least 2% that of Cr.

13. (Canceled).

14. (Canceled).

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15. (Canceled).

16. (Previously Amended) The method of manufacturing a magnetic recording medium of claim 11, wherein the oxidized portion of the seedlayer contains from about 0.01 atomic percent oxygen to about 0.9 atomic percent oxygen.

17. (Previously Amended) The method of manufacturing a magnetic recording medium of claim 11, wherein the oxidized portion of the seedlayer has a mean grain size diameter of 10 nm or less.

18. (Previously Amended) The method of manufacturing a magnetic recording medium of claim 11, wherein the seedlayer has a Cr-X (110) interplanar spacing that is substantially equivalent to a (0002) interplanar spacing of the HCP alloy in the second underlayer.

19. (Previously Amended) The method of manufacturing a magnetic recording medium of claim 11, wherein the second underlayer comprises a CoCr-containing material to form a first magnetic recording medium, the first magnetic recording medium exhibiting a stronger CoCr (11.0) peak by X-ray crystallography than that of a second magnetic recording medium that is manufactured similarly to the first magnetic recording medium except that the seedlayer of the second magnetic recording medium contains substantially pure Cr.

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20. (Currently Amended) A magnetic recording medium comprising:
an oxidized means for low noise recording directly on a substrate,
a magnetic layer,
a non-oxidized underlayer comprising a Cr-containing material and
a layer for allowing a BCC-HCP transition to occur between the underlayer and the magnetic
layer, and further wherein grains of the seedlayer in the medium has a lower sigma/mean than
that of an unoxidized seedlayer in a similar medium.